

REMARKS/ARGUMENT

I. General Remarks.

Please consider the application in view of the following remarks. Applicants thank the Examiner for his careful consideration of this application.

II. Disposition of Claims

Claims 1-28, 30-39 and 123-191 are pending in the application.

Claims 1-28, 30-39 and 123-191 are rejected.

Claims 1, 14, 123, 136-138, 144-146, 159, 172-174 and 180-182 have been amended.

Claims 13, 135, and 171 are cancelled.

Applicants respectfully request reconsideration in light of the arguments and remarks contained herein.

III. Remarks Regarding Rejections of Claims 1-28, 30-39 and 123-191 Under 35 U.S.C. §§ 102/103.

The Examiner has rejected claims 1-28, 30-39 and 123-191 under 35 U.S.C. § 102(a) and (b) as anticipated by, or in the alternative, under 35 U.S.C. § 103(a) as obvious over U.S. Patent No. 4,393,939 to Smith et al. ("*Smith*"), U.S. Patent No. 3,508,407 to Booth ("*Booth*") alone or in view of U.S. Patent No. 5,588,488 to Vijn et al. ("*Vijn*"), U.S. Patent No. 6,087,418 to Yamashita, U.S. Patent No. 6,089,318 to Laramay et al. ("*Laramay*"), Scheetz et al. (abstract) ("*Scheetz*"), or U.S. Patent No. 4,131,480 to McCurrich ("*McCurrich*").

With respect to these rejections, the Office Action states:

The primary references above reach adding a cationic polymer to cement. The prior art cationic polymer is the same as applicants' cationic polymer and thus would also function as their particle size distribution adjusting agent. The applicants particle size distribution adjusting agent is essentially new words for defining what is already old in the art. Namely, this PSDA agent is actually a flocculent or flocculating agent which causes particles in suspension to floc together or agglomerate (see page 7, line 8 of applicants' specification). The activator or activating agent reads upon either water (which activates the hydraulic activity of cement) or an accelerator which accelerates and activates the rapid setting of cement. Note that in claim 1 applicants do not specify or define any specific activators and though they may mean accelerator by the use of the term activator, water is the only

ingredient which imparts the hydraulic activity to cement and starts the hydraulic reaction for hardening and setting of the cement.

The use of a retarder is *conventional* and well known in cement compositions to retard or delay the setting of cement. Vijn et al. '488 teaches in column 4, lines 24-35 that the addition of a retarder to cements for applicants such as well cements is known and conventional in the art. Vijn also teach adding dispersing agents, defoamers, silica flour, formation conditioning additives, expansion aids, set accelerators (activators), weighting agents, lightening agents such as fly ash or fumed silica (see col. 4 lines 10-16 and col. 5, lines 1-20).

Yamashita et al. '418 teach *conventional* additives to cement compositions include retarders such as phosphonic acids and their derivatives (col. 17, line 25), high early strength agents (ie accelerators or as applicants name them activators) such as KOH or NaOH (col. 17, lines 35-40) as well as alkanolamines, surfactants (same as surface active agents-see col. 18, lines 35-55), thickeners (same as viscosifiers-see col. 19, line 3), silica fume, fly ash, etc. Yamashita et al. further teach these additives may be added in plural (col. 19, line 9).

Laramay et al. '318 teach adding *conventional* additives to cement compositions such as fluid loss additives, viscosifiers, retarders, accelerators (ie activators), dispersants, weight adjusting agents, fillers, (see col. 10, lines 25-30), surfactants (col. 11, line 14), fly ash, silica flour, etc. (col. 11, lines 20-23). It would have been an obvious design choice for one of ordinary skill in the art to add conventional cement additives of Laramay et al. '318, Vijn et al. '488, and Yamashita et al. [sic] '418 to cement compositions such as those of the primary references because these are routinely used in the art.

Scheetz and McCurich '480 et al. teach the addition of sulfonated naphthalene condensate is old in the cement art as an additive because it is a conventionally used superplasticizer (dispersant) for improving the pumpability of the cement slurry (see abstract). The applicants call this component a "yield stress reducing agent" but it is better known in the art as a superplasticizer (or dispersant) which are conventional additives to improve cement pumpability.

(Office Action at 3-4.) Applicants respectfully disagree.

A. Rejection of Claims Under U.S.C. § 102(a) and (b)

To form a basis for a 35 U.S.C. § 102 rejection, a prior art reference must disclose each and every element as set forth in the claim. *See* MANUAL OF PATENT EXAMINING PROCEDURE § 2131 (2005). “The identical invention must be shown in as complete detail as it is contained in the claim.” Similarly, in order to form a basis for a rejection under 35 U.S.C. § 102(b), a prior art rejection must disclose each and every element as set forth in the claim. *Smith* nor *Booth* disclose each and every element as set forth in independent claims 1, 123, and 159 in present form.

With regard to *Smith*, it has not been shown to disclose a step “wherein activating the cement composition comprises adding an activator composition to the cement composition,” as required by Applicants’ claims 1, 123 and 159. Rather, there is no indication or any reference in *Smith* that discloses the addition of an activator composition to the cement composition. Further, the Examiner has stated that water acts in “activating” the cement composition. (Final Office Action at 3.) Applicants respectfully disagree because water does not “activate” the Applicants’ cement compositions in the manner that the present application specifies. The specification of the present application states that the cement composition may be made ready for use by the addition of activator compositions that “generally comprise a mixture of at least one alkali or alkaline earth metal hydroxide, and a trialkanolamine.” (Specification, ¶ [0027]) As one skilled in the art would recognize, the water already present within the cement composition does not function as an activator. Accordingly, Applicants respectfully assert that *Smith* has not been shown to anticipate Applicants’ independent claims 1, 123 and 159.

With regard to *Booth*, like *Smith*, it has not been shown to disclose a step “wherein activating the cement composition comprises adding an activator composition to the cement composition,” as required by Applicants’ claims 1, 123 and 159. Rather, there is no indication or any reference in *Booth* that discloses the addition of an activator composition to the cement composition. Further, the Examiner has stated that water acts in “activating” the cement composition. (Final Office Action at 3.) Applicants respectfully disagree because water does not “activate” the Applicants’ cement compositions in the manner that the present application specifies. The specification of the present application states that the cement composition may be made ready for use by the addition of activator compositions that “generally comprise a mixture of at least one alkali or alkaline earth metal hydroxide, and a trialkanolamine.” (Specification, ¶

[0027]) As one skilled in the art would recognize, the water already present within the cement composition does not function as an activator. Accordingly, Applicants respectfully assert that *Booth* has not been shown to anticipate Applicants' independent claims 1, 123 and 159.

Consequently, for at least the above stated reasons, Applicants respectfully submit that claims 1, 123 and 159 are not anticipated by either *Smith* or *Booth*. Moreover, since "a claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers," and since claims 2-12, 14-28, 30-39, 124-134, 136-158, 160-170 and 172-191 depend, either directly or indirectly, from claims 1, 123 and 159, these dependent claims are allowable for at least the same reasons. *See* 35 U.S.C. § 112 ¶ 4 (2005). Accordingly, Applicants respectfully request the withdrawal of these rejections.

B. Rejection of Claims Under U.S.C. § 103(a)

Applicants respectfully disagree with these rejections because the Examiner has not established a *prima facie* case of obviousness, in that the cited references do not disclose, expressly or inherently, each and every claim limitation and there is no teaching or suggestion to combine the references. MPEP § 2143.03 (2005). In order for a combination of references to form the basis for a rejection under § 103(a) the combination of references must teach or suggest all the elements of the claim. *Id.*

As to claims 1, 123 and 159, none of the cited references discloses, expressly or inherently, each and every limitation. Further, there is no teaching or suggestion to combine the references. Because the Examiner has not shown that any of the references cited disclose the step of activation of a cement composition, Applicants respectfully request that the rejections of claims 1-28, 30-39 and 123-191 based upon these references be withdrawn, and respectfully request a Notice of Allowance for these claims. Should a rejection based on these assertions be maintained, Applicants respectfully request evidentiary support. If the Examiner is relying upon "common knowledge" or "well known" principles to supply the motivation to combine, Applicants request that a reference be provided in support of this position pursuant to MPEP § 2144.03. Alternatively, if the Examiner's personal knowledge is being relied on to supply the disclosure of the motivation to combine, Applicants respectfully request that an affidavit supporting such facts be provided pursuant to MPEP § 2144.03 and 37 C.F.R. § 1.104(d)(2).

The Examiner has stated that water acts in "activating" the cement composition. (Final Office Action at 3.) Applicants respectfully disagree because water does not "activate"

the Applicants' cement compositions in the manner that the present application specifies. The specification of the present application states that the cement composition may be made ready for use by the addition of activator compositions that "generally comprise a mixture of at least one alkali or alkaline earth metal hydroxide, and a trialkanolamine." (Specification, ¶ [0027]) The primary references to which the Examiner cites do not teach or suggest this method of activation. In the Response to Fourth Office Action, mailed May 4, 2006, Applicants provided data indicating that the addition of water to a cement slurry has been shown to increase thickening time, *e.g.* retard cement setting. The data indicated that increasing the amount of water in a slurry increases the thickening time, even at varying temperatures. One of ordinary skill in the art would also deduce from the data that simply adding water would not "activate" a cement composition, as the Examiner so claims.

Furthermore, in the Response to Fourth Office Action, Applicants asked the Examiner to provide evidence that refutes the argument that water does not "activate" a composition. However, the Examiner has yet to provide any evidence that water does, in fact, act as an activator. Applicants have provided evidence that the addition of water does not "activate" a composition. "If applicant adequately traverses the examiner's assertion of official notice, the examiner must provide documentary evidence in the next Office action if the rejection is to be maintained. *See* 37 CFR 1.104(c)(2). *See* also *Zurko*, 258 F.3d at 1386, 59 USPQ2d at 1697 ("[T]he Board [or examiner] must point to some concrete evidence in the record in support of these findings" to satisfy the substantial evidence test). If the examiner is relying on personal knowledge to support the finding of what is known in the art, the examiner must provide an affidavit or declaration setting forth specific factual statements and explanation to support the finding. *See* 37 CFR 1.104(d)(2)." MPEP 2144.03(C) The Examiner has not shown that the addition of water is necessary to activate the cement composition which is required by the recitation in the applicants' claims.

With respect to *Vijn*, it fails to teach or suggest a method of cementing comprising "permitting the cement composition to remain in slurry state for a period of time *prior* to the cement composition being *activated*." (emphasis added) Rather, *Vijn* discusses the use of set retarders "to extend the time in which the cement slurry composition can be pumped." The *Vijn* reference also discusses the ability to retard activated cement compositions for the purpose of preventing "shocks and impacts from subsequent drilling and completion operations carried out

in the well” from shattering the cement. *See* col. 4, lines 24-35 and col. 5, lines 38-59. However, the use of a set retarder in an activated cement does not teach or suggest “permitting the cement composition to remain in slurry state for a period of time *prior* to the cement composition being *activated*” and there is absolutely no reference to this required element of the independent claims in *Vijn* (emphasis added) Nor can *Yamashita*, *Laramay*, *Scheetz*, or *McCurrich* be used to provide the necessary recitation.

With respect to *Yamashita*, it does not teach or suggest all elements of Applicants’ independent claims 1, 123 and 159. In particular, *Yamashita* fails to teach or suggest the step of providing a composition that comprises a particle-size distribution-adjusting agent. *Yamashita* also fails to disclose the step of activating the cement composition, which is required by Applicants’ claims.

Applicants’ claims 1, 123 and 159 recite the use of compositions comprising particle-size distribution-adjusting agents. Applicants’ Specification states that certain cationic polymers may constitute particle-size distribution-adjusting agents. Accordingly, to anticipate or obviate the subject claims, *Yamashita* must teach or suggest compositions that comprise either cationic polymers, or other compounds that inherently or expressly constitute particle-size distribution adjusting agents. *Yamashita* discloses none of these.

Yamashita only discloses cement compositions that may comprise “various kinds of cationic surface active agents such as alkylamine acetate and alkyltrimethylammonium chloride.” (*Yamashita*, Col. 18, ll. 54-56.) Nowhere does *Yamashita* expressly state that these cationic surface active agents are particle-size distribution-adjusting agents. Nor has the Examiner provided any evidence to show that cationic surface active agents inherently would constitute particle-size distribution-adjusting agents. Nor are these compounds cationic polymers. For example, neither of the two cationic surface active agents disclosed in *Yamashita*—alkylamine acetate and alkyltrimethylammonium chloride—are polymers. Indeed, cationic “surface active agents,” or surfactants, typically are low-molecular-weight compounds (typically < 1,000 MW). In contrast, cationic polymers typically are high-molecular-weight compounds (typically having a molecular weight ranging from at least 10,000 to several million). Thus, *Yamashita*’s cationic surface active agents are not cationic polymers.

Yamashita does disclose the presence of polymer compounds in a cement composition. (Col. 2, ll. 53--Col. 3, ll. 60.) However, none of these polymer compounds are

inherently or expressly cationic. Nor is there any suggestion that these polymer compounds constitute particle-size distribution-adjusting agents as required by the subject claims. For the reasons stated above, *Yamashita* fails to disclose compositions comprising particle-size distribution-adjusting agents, as required by Applicants' independent claims.

Additionally, Applicants' claims recite the step of "activating the cement composition." *Yamashita* does not disclose the activation of a cement composition, nor does *Yamashita* suggest any suitable activators. Because *Yamashita* fails to teach or suggest compositions comprising particle-size distribution-adjusting agents, *Yamashita* cannot anticipate Applicants' independent claims 1, 123 or 159. *Yamashita* fails to teach or suggest the required recitations of the claims. Nor can *Vijn*, *Laramay*, *Scheetz*, or *McCurrich* be used to provide the necessary recitation.

With respect to *Laramay*, it does not teach or suggest all elements of Applicants' independent claims 1, 123 and 159. In particular, *Laramay* fails to teach or suggest compositions that comprise a particle-size distribution-adjusting agent. *Laramay* also fails to disclose the step of activating the cement composition, which is required by Applicants' claims.

Applicants' claims 1, 123 and 159 recite the use of compositions comprising particle-size distribution-adjusting agents. Applicants' Specification states that certain cationic polymers may constitute particle-size distribution-adjusting agents. Accordingly, to anticipate or obviate the subject claims, *Laramay* must teach or suggest compositions that comprise either cationic polymers, or other compounds that inherently or expressly constitute particle-size distribution adjusting agents. *Laramay* discloses none of these.

Laramay only discloses cement compositions that may comprise "various anionic, cationic, nonionic and other surface active compounds," (*Laramay*, Col. 11, ll. 12-15). Nowhere does *Laramay* expressly state that these compounds are particle-size distribution-adjusting agents. Nor has the Examiner provided any evidence to show that cationic surface active compounds inherently would constitute particle-size distribution-adjusting agents. Nor are these compounds cationic polymers. Cationic "surface active compounds," or surfactants, typically are low-molecular-weight compounds (typically < 1,000 MW). In contrast, cationic polymers typically are high-molecular-weight compounds (typically having a molecular weight ranging from at least 10,000 to several million). Thus, *Laramay*'s cationic surface active compounds do not constitute particle-size distribution-adjusting agents as required by the subject claims.

Laramay does disclose the use of polymers in a cement composition—a polymer composition made by reacting a vinylamide morpholine derivative with a styrene sulfonic salt. (*Laramay*, Col. 6, ll. 39-45.) However, these polymer compositions are not cationic; thus, they are not cationic polymers. Nor is there any suggestion that these polymer compositions constitute particle-size distribution-adjusting agents as required by the subject claims.

Applicants' claims recite the step of "activating the cement composition." *Laramay* nowhere discloses the activation of a cement composition, nor does *Laramay* suggest any suitable activators. Because *Laramay* fails to teach or suggest compositions comprising particle-size distribution-adjusting agents, *Laramay* cannot anticipate or obviate Applicants' independent claims 1, 123 or 159. *Laramay* fails to teach or suggest the required recitations of the claims. Nor can *Vijn*, *Yamashita*, *Scheetz*, or *McCurrich* be used to provide the necessary recitation.

Accordingly, for at least the reasons stated above in Section V. A., *Smith* or *Booth*, alone or in view of *Vijn*, *Yamashita*, *Laramay*, *Scheetz*, or *McCurrich* do not obviate independent claims 1, 123 and 159. Moreover, since a claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers," and since claims 2-12, 14-28, 30-39, 124-134, 136-158, 160-170 and 172-191 depend, either directly or indirectly, from claims 1, 123 and 159, these dependent claims are allowable for at least the same reasons. See 35 U.S.C. § 112 ¶ 4 (2005). Accordingly, Applicants respectfully request the withdrawal of these rejections.

IV. No Waiver.

All of Applicants' arguments and amendments are without prejudice or disclaimer. Additionally, Applicants have merely discussed example distinctions from the Cited References. Other distinctions may exist, and Applicants reserve the right to discuss these additional distinctions in a later Response or on Appeal, if appropriate. By not responding to additional statements made by the Examiner, Applicants do not acquiesce to the Examiner's additional statements, such as, for example, any statements relating to what would be obvious to a person of ordinary skill in the art. The example distinctions discussed by Applicants are sufficient to overcome the anticipation and obviousness rejections.

SUMMARY

In light of the above remarks, Applicants respectfully request reconsideration and withdrawal of the outstanding rejections. Applicants further submit that the application is now in condition for allowance, and earnestly solicit timely notice of the same. Should the Examiner have any questions, comments or suggestions in furtherance of the prosecution of this application, the Examiner is invited to contact the attorney of record by telephone, facsimile, or electronic mail.

Applicants hereby petition under the provisions of 37 C.F.R. § 1.136(a) to extend the time for reply to the Notice of Panel Decision from Pre-Appeal Brief Review mailed on January 25, 2008 for 2 months from March 10, 2008 to May 10, 2008. Applicants have authorized the Commissioner to debit Baker Botts L.L.P.'s Deposit Account No. 02-0383, Order Number 063718.0359, in the amount of \$460.00 for the fee for the two-month Extension of Time to file this Response. Further, the Applicants have authorized the Commissioner to debit Baker Botts L.L.P.'s Deposit Account No. 02-0383, Order Number 063718.0359, in the amount of \$810.00 for the RCE fee under 37 C.F.R. § 1.117(e). Should the Commissioner deem that any fees are due, including any fees for any extensions of time, Applicants respectfully request that the Commissioner accept this as a Petition therefore, and directs that any fees be debited from Baker Botts L.L.P., Deposit Account No. 02-0383, Order Number 063718.0359.

Respectfully submitted,

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